Workshop: San Francisco Bay Area Seismic Velocity Models for Seismic Hazard Assessment

March 21-22, 2018
USGS Menlo Park Campus
Rambo Auditorium (Building 3 Main Conference Room)

Objective: Develop a five-year plan for leveraging community resources to systematically and continually improve one or more 3-D seismic velocity models for the San Francisco Bay Area and surrounding region for use in seismic hazard assessment.

Wednesday, March 21

10:00	Welcome/Introduction, Brad Aagaard

Session I: Current USGS San Francisco Bay Area 3-D Seismic Velocity Model

10:15	3-D Geologic Model, Russell Graymer (USGS)
10:25	Elastic Properties, Thomas Brocher (USGS)
10:35	3-D Seismic Velocity Model, Brad Aagaard (USGS)
10:45	Validation of Synthetic Ground-Motions using 1989 M6.9 Loma Prieta Earthquake, Robert Graves (USGS)
10:55	Accuracy of Synthetic Ground-Motions for the 2014 M6.0 South Napa Earthquake and Moderate Earthquakes, Arthur Rodgers (LLNL)
11:10	Discussion
11:45 - 12:45	Lunch (on your own)

Session II: Related Efforts

12:45	SCEC Central Coast Seismic Velocity Model, Tom Jordan (USC)
13:05	San Joaquin - Sacramento Delta 3-D S-Wave Model, Joe Fletcher (USGS)
13:15	USGS National Crustal Model, Oliver Boyd (USGS)
13:30	Discussion

Session III: Model Refinement: What additional geologic, geophysical, and seismic data are *currently* available that could be readily used to improve the model?

13:45	Seismicity and Seismic Networks, Lind Gee (USGS)
13:55	Geologic data and well logs, Russell Graymer (USGS)
14:05	Gravity and Aeromagnitude Data, Vicki Langenheim (USGS)
14:15	Active and Passive Seismic Data, Rufus Catchings (USGS)
14:25	Discussion

Breakout Discussion I: Seismic Hazard Assessment Use Cases for 3-D Seismic Velocity Models

14:55	Breakout Groups
15:35	Group Reports

Session IV: Model Representation and Access

16:00	Unified Structural Representation Workflow for Updating the SCEC CVM-H, Andreas Plesch (Harvard)
16:15	SCEC Unified Community Velocity Model Interface, Philip Maechling (USC)

16:25	LLNL R Interface: Querying the USGS Seismic Velocity Model on a Massively Parallel Supercomputer, Anders Petersson (LLNL)
16:35	GeoModelGrids: Query Interface and Self-Describing Storage Scheme, Brad Aagaard (USGS)
16:45	Discussion
17:15	Dinner (self organize)

Thursday, March 22

Session V: Frontiers in Geologic, Geophysical, and Seismic Data

9:00	PG&E SmartMeter Seismometer Project, TBD
9:15	Discussion: Augmentation/Expansion of existing seismic networks (Moderator: TBD)
9:35	Discussion: Other New Data Sources for:Geologic, Geophysical, and Other Useful Information (Moderator: TBD)
9:55	Discussion: New Analysis Techniques For Constraining Geologic Structure and Crustal Properties (Moderator: TBD)

Breakout Discussion II: Community Model Building

10:15	Part 1: How do we maintain a coherent model while leveraging constraints on geologic structure and elastic properties from a wide range of data and analysis techniques?
10:45	Group reports for Part 1
11:30 - 13:15	Lunch (on your own; *public lecture 12:00-13:00*)

Breakout Discussion II (continued): Community Model Building

13:15	Part 2: Resources and Organization
13:45	Group reports for Part 2
14:30	Discussion
15:00	Wrap-up
15:30	Adjourn